

The University of Iowa

Economic Development Appropriations Subcommittee:

Partnering to build Iowa's future economy

February 8, 2012

Jordan Cohen, Vice President for Research & Economic Development



Outline

- ❖ Overview of UI economic development initiatives
- ❖ Technology Transfer/Commercialization
- ❖ Impact of Grow Iowa Values Fund
- ❖ Exemplar Genetics - John Swart, CEO, Exemplar Genetics
- ❖ Entrepreneurial education and business assistance - David Hensley, Stephanie Tang, Thomas Hornbeck
- ❖ STEM workforce preparation
- ❖ Community engagement
- ❖ Ideas for further leveraging the extensive and complimentary assets of the BOR institutions for the benefit of Iowa and Iowans.



The IOWA Centers for Enterprise is a comprehensive program that promotes technology transfer, commercialization & business development.

- Facilitated by strong regional partners (IEDA, Iowa City Area Development Group, Cedar Rapids Metro Economic Alliance)
- The ultimate goals of the Iowa Centers for Enterprise are to facilitate university-private sector partnerships in entrepreneurship and continue to create new companies in Iowa based upon UI technology

AIDING *Entrepreneurs*

- ✓ John Pappajohn Entrepreneurial Center

THE UNIVERSITY OF IOWA
JOHN PAPPAJOHN ENTREPRENEURIAL CENTER

GROWING *Small Businesses*

- ✓ UI Small Business Development Center



GUIDING *Innovations to Market*

- ✓ University of Iowa Research Foundation



PROVIDING *Space and Support*

- ✓ UI Research Park
- ✓ Technology Innovation Center
- ✓ BioVentures Center



UI Innovation

CMV Promoter: Dr. Mark Stinski's platform technology for biotechnology drug manufacture - **120 licenses, \$170M total royalty income and 13 currently-marketed drugs**

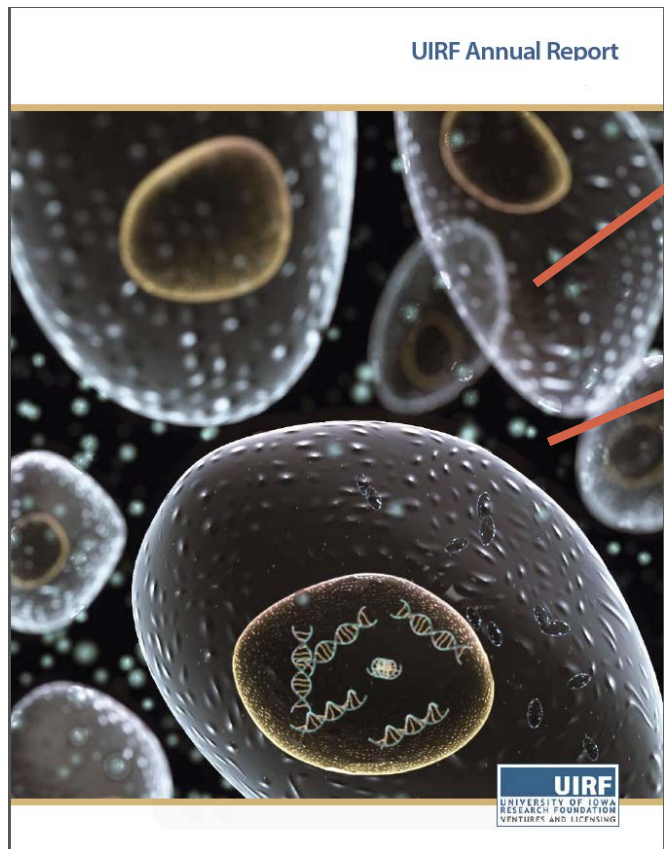
Van Allen Radiation Belts: Dr. James Van Allen's **pioneering research** spawned new field of research known as magnetospheric physics which now engages more than **1,000 investigators** in more than 20 countries

Ponseti Clubfoot Method: Dr. Ignacio Ponseti's nonsurgical treatment of club foot has **95% success rate** and is now the **preferred treatment worldwide.**

Educational Testing: ACT, Pearson, and Iowa Tests of Basic Skills (ITBS) were created based upon the research of **Dr. Everett Lindquist** and colleagues in the College of Education.

Technology Commercialization

2010



\$456M Total research funding

9,400 Research related jobs

20 Start up companies past 5 years

\$26M Total licensing revenue

70 Invention disclosures

61 New patents filed

46 Options and licenses

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- **20** UI start up companies created over the past 5 years, **14** remain active
- **17** of these companies received support from GIVF funding over the years
- **6** Reside in the Research Park where total employment exceeds **1,800** with average salaries > **\$63K**; 200 additional jobs anticipated by mid 2012
- **11** were successful in securing **\$33M** in outside funding compared to \$ 16M in FY10 and \$7M in FY 09
- Educational programs led to identification of **122** faculty members and **79** potentially commercially viable technologies going forward

Impact of Grow Iowa Values Funds

- **Critical component of our continuing success**
 - Early stage pilot grants for proof of concept
 - Small awards to stimulate “elevator pitch” ideas among students, staff and faculty
 - Assistance of start companies to move to compete for next round of funding
- **Leveraged with matched internal UIRF Funds**
- **Unusually high success rates**
- **Vital to retain or replace if we are to benefit from previous investment of State and Internal funding.**

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Companies Formed from Iowa Intellectual Property

Company Name	Industry Sector	Stages	GIVF	Iowa Company	Follow on Funding	Active
Advanced Infoneering, Inc.	Aviation	Product sales		*	\$902K	√
Aridis Pharmaceuticals	Life Sciences	Proof of concept				√
Asphelia Pharmaceuticals, Inc.**	Life Sciences	Acquired by Coronado				√
ASL Analytics Inc.	Life Sciences	Product development	√	*	\$2.6M	√
Behavioral Diagnostics, Inc.	Life Sciences	Proof of concept		*	*	√
Bio:Neos	Software Development	Contract Services	√	*	*	√
Coronado Biosciences	Life Sciences	Clinical trials			Series B	√
Corvida Medical	Medical instruments	Product Development	√		\$2.2M	√
Exemplar Genetics	Life Sciences	Product sales	√	*	\$1.7M	√
FxRedux, LLC	Software	Proof of concept	√	*		√
IDx, LLC	Diagnostics software	Product development	√	*	Series A	√
JL Meditech			√			No
Medical Imaging Applications	Medical imaging	Product sales		*	*	√
Memcine Pharmaceuticals*	Life Sciences	Formed Aug 2010	√	*		√
Mencuro Therapeutics*	Life Sciences	Formed Aug 2010	√		SBIR - \$100K	√
Optherion, Inc.	Life Sciences	Product licensed	√		Series A \$34M	√
OMR Sensors	Software/technology		√	*		No
Ovamed Inc.	Life Sciences	Clinical trials, sales			*	√
QuantCad LLC	Software	Contract services		*	*	√
QI2**	Medical Imaging	Acquired by VIDA in FY11	√	*	0	No
SantosHuman Inc.	Engineering	Product development, sales	Battelle	*	\$300K	√
Tansna Therapeutics*	Life Sciences	Formed Aug 2010	√	*	SBIR - \$100K	√
Targeted Genetics Inc.**	Life Sciences	Acquired in FY11			\$4.3M	√
Terpenoid Therapeutics, Inc.	Life Sciences	Preclinical trials	√	*	\$2.4M	√
Viewpoint Molecular Targeting	Life Sciences	Proof of concept	√	*		√
VIDA Diagnostics Inc.	Medical Imaging	Product sales		*	*	√
Viraquest Inc.	Life Sciences	Product Sales		*		√
Voltesla Inc.***	Advanced materials for energy systems	Licensing activity	√	*	\$40K	No
Znovation, LLC	Advanced materials for energy systems	Proof of concept				√

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Pre-companies funded by Competitive GIVF

Investigator	Year	Stage	GIVF
Dr. Matt Howard	2011	Startup interest	√
Dr. Josep Comeron	2011	Startup interest	√
Dr. Harsha Doddapaneni	2011	Startup interest	√
Dr. Chris Adams	2010	Startup interest	√
Dr. Paul McCray	2010	Start up interest	√

Building Iowa's Future Economy through Workforce Development

UI / Kirkwood Community College/School Districts

Unique partnership involving faculty among all 3 education sectors to develop and evaluate new models for STEM education and teacher preparation.



High school and community college students will have access to Advanced College courses in STEM and technically focused career academies will be enhanced with a stronger science base and unique experiences in on-campus programs including at UIHC as well as park companies, State Hygienic Laboratory and National Advanced Driving Simulator.

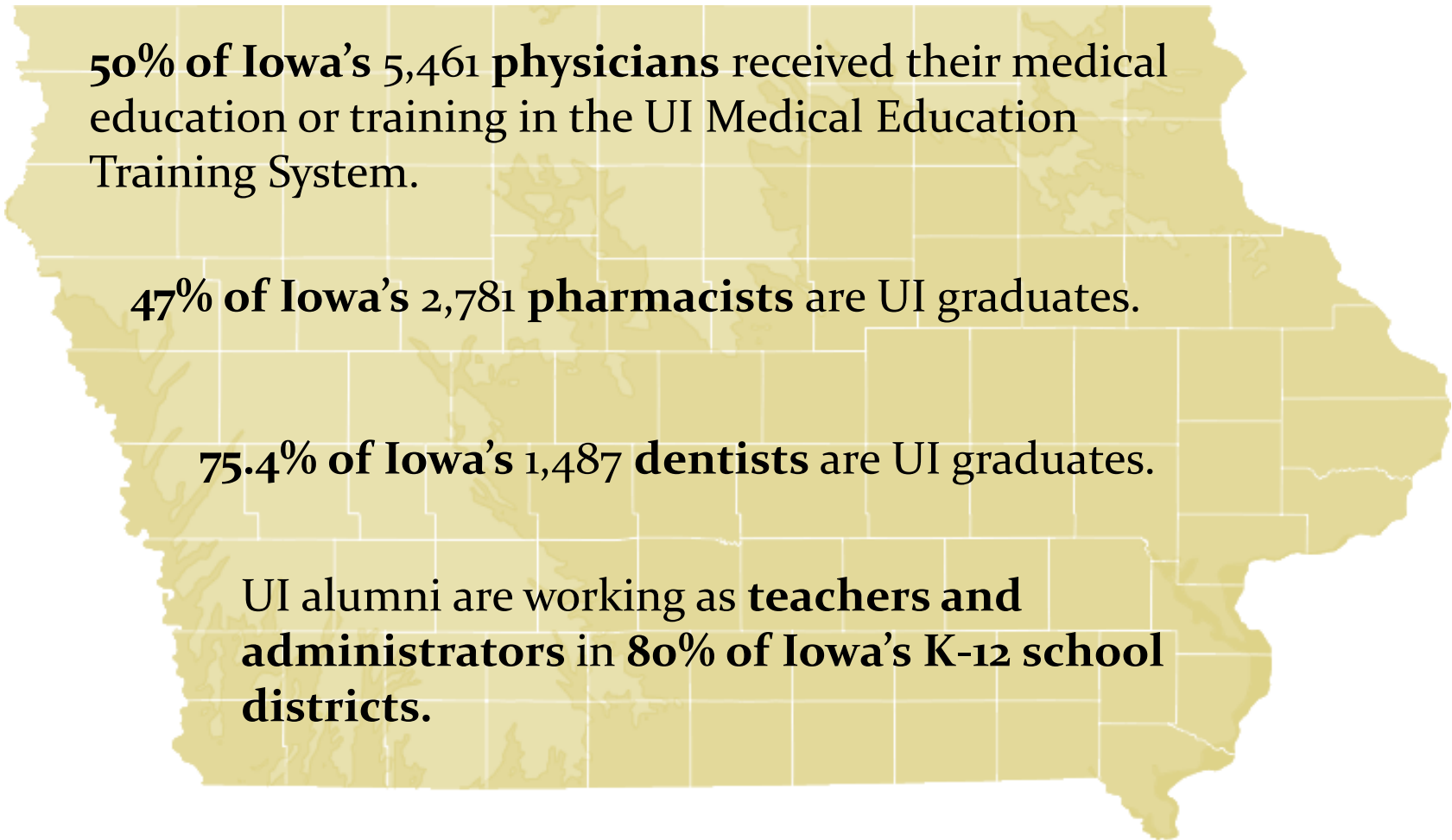
Lt. Governor's STEM Initiative: BOR will Lead and strengthen regional partnerships.

Experimental Program to Stimulate Competitive Research:

Infrastructure improvement grant from NSF (**\$24M**) with focus on STEM education, enhancing and diversifying the pipeline.



Enhancing the quality of life in Iowa



50% of Iowa's 5,461 physicians received their medical education or training in the UI Medical Education Training System.

47% of Iowa's 2,781 pharmacists are UI graduates.

75.4% of Iowa's 1,487 dentists are UI graduates.

UI alumni are working as **teachers and administrators** in **80% of Iowa's K-12 school districts.**

Community Impact

Healthcare



Public Health



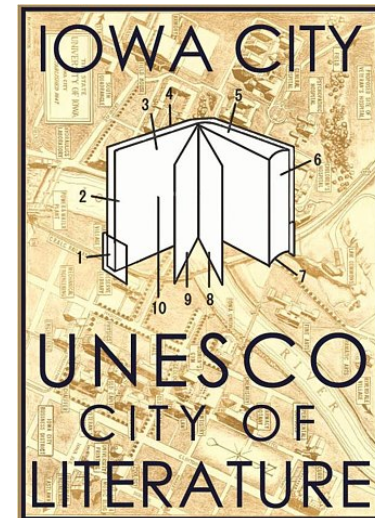
Educational outreach



Urban & Regional
Planning



Iowa Flood Center

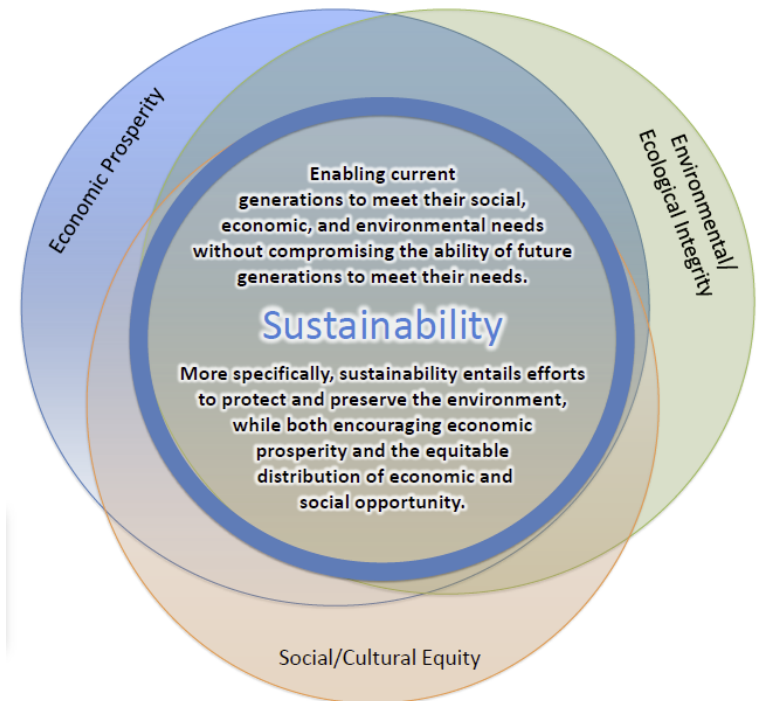


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Sustainability partnerships with Iowa Communities

University of Iowa Urban and Regional Planning graduate students partner with the cities of Dubuque, Decorah, Charles City, Burlington, Columbus Junction, Wellman, Oskaloosa and Cedar Rapids on multiple sustainability goals including:

- **researching and mapping renewable energy sources,**
- **working with the local colleges and other major institutions** in the area to link them with local food producers,
- **designing a Green and Healthy Homes program,**
- **collaborating to develop a portrait of poverty and identifying possible models to address poverty,**
- **Model to collect data and measure progress on community sustainability principles**



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Stimulate Entrepreneurism & Proof of Concept

Commercialization competitions

Elevator Pitch - Fast, competitive presentation of business idea

- FY11 – 2 competitions - \$67K awarded with 85 team participants

New Venture Challenge - Competitive presentation of business idea

- FY 11 – \$65K in awards with 58 participants

GIVF Seed Grant – Competitive proposal-based funding intended to stimulate faculty and staff research toward technology commercialization, from initial idea, to proof of concept, to licensing and commercialization.

- FY 10 & FY11: 11 projects funding \$414K in proof of concept funding

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Support for Iowa Companies

John Pappajohn Entrepreneurial Center

Over the past 15 years...

- **28,366** enrollments in JPEC courses
- **1,806** students earned a certificate in entrepreneurship
- **5,000** businesses served
- **20,815** youth were inspired to be entrepreneurs and leaders

Small Business Development Center FY 11

- ✓ **308** clients served (170 new clients)
- ✓ **30** business startups assisted
- ✓ **\$3,800,000** raised for client financing
- ✓ **141** jobs created
- ✓ **35** Bought/Started Businesses
- ✓ **29** jobs retained



Iowa Medical Innovation Group

Advancing Medical Technology Commercialization through Cross-Campus Collaborations

- Interdisciplinary student led teams from the Colleges of Medicine, Business, Engineering and Law seeking solutions to clinical issues and focused on Medical Devices.
- 32 total students – 4 teams
- 6 faculty, 2 medical students and 2 staff serve as advisers
- UIRF and outside experts do IP review
- In FY12, 4 technologies currently under development as medical devices; prototypes being created along with commercialization strategies



Bedell Entrepreneurial Learning Lab

Highly successful campus-wide student business incubator on campus

- ✓ Physical space, computers, conferencing space

Education, mentoring and support for these student companies

- ✓ Weekly status updates with JPEC staff
- ✓ Round table lunches
- ✓ Bring entrepreneurs to campus for mentoring teams
- ✓ Awards and recognition program



FY 11 BELL Business included **30** companies with **8** generating revenue

Examples of BELL Companies:

DataBabies – manufacturer of USB devices attached to finger puppets

HC Innovative – publisher of smart phone apps for consumer medical information

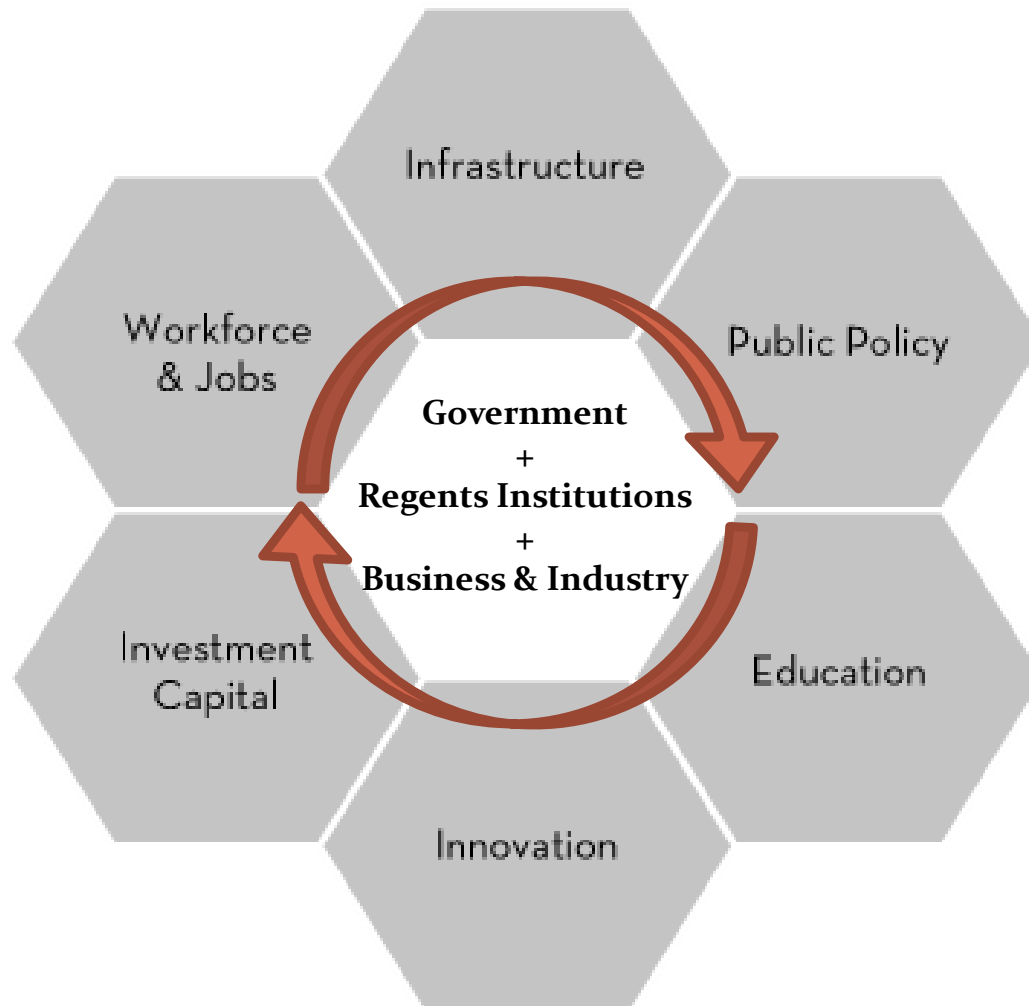
Mazira.com – a photo sharing timeline social network

G. Alexander Developments – a mobile home real estate development company

Our Future – Personal Observations

- ❖ Universities are essential to state, regional and national economic growth and competitiveness
- ❖ Universities represent **necessary but not sufficient** resources/expertise
- ❖ Our message should become **..cylinders of economic development ..but not ..engines of economic development** on our own
- ❖ A coordinated **Ecosystem** with strong **partnerships** is critical across BOR, Government and Private Sector
- ❖ Recognize that collectively our contributions to the **economic value proposition** reach far beyond technology commercialization

A Model Economic Development Ecosystem



Critical Components

In Place:

- Basic Research
- Applied Research
- R and D Tax Credits

Need Further Development:

- Proof of concept – early stage funding
- Venture Capital
- Strong university infrastructure
- Comprehensive researcher recruitment strategy
- STEM workforce pipeline
- Industry partnering incentives
- Leverage for Federal Grants and Contracts

QUESTIONS

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